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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,848	05/17/2006	Shoji Hidaka	19A 3787 PCT	5488

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EXAMINER
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HAGEDORN, MICHAEL E

ART UNIT	PAPER NUMBER
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4159

MAIL DATE	DELIVERY MODE
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12/08/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,848	<b>Applicant(s)</b> HIDAKA ET AL.	
	<b>Examiner</b> MICHAEL HAGEDORN	<b>Art Unit</b> 4159	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2, 4 - 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 4 - 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>17 May 2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4, 5, 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. In re claim 5, applicant uses the phrase "a gun installs a valve mechanism". This phrase would imply the gun does the installing of the valve mechanism.

5. In re claims 4 and 5 applicant claims "a gas suction opening is provided between the first gear pump and the second gear pump in the second compression process and a mixer is provided between the gas suction opening and the second gear pump".

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However, in the drawings the mixer is provided between the gas suction opening and first gear pump.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Jameson (US Patent 4,535,919).

8. In re claim 2, Jameson discloses with reference to figure 1 below, a device for applying a foamed hot melt adhesive having a first compression process (11) including a first gear pump (13a,b) and a second compression process (12) including a second gear pump (14a,b), supplying a hot melt adhesive (9) with application of pressure in the first compression processing (11), mixing a gas (22) with the a hot melt adhesive (9) in the second compression process (12), and discharging the foamed hot melt adhesive (9) from a discharge opening (26), wherein the first gear pump (13a,b) of the first compression process (11) and the second gear pump (14a,b) of the second compression process (12) are driven by drive mechanisms (15m) independently from each other and rotation frequencies of the first gear pump (13a,b) and the second gear pump (14a,b), respectively, are set independently and arbitrarily, and detecting a pressure (28) of a liquid being pressure fed in the second compression process (12), the rotation frequencies of the first gear pump (13a,b) and the second gear pump

(14a,b), respectively, are sequentially controlled so as to automatically control an amount of the gas (22) to be mixed (the abstract discloses a system that can control all operating conditions, inherently describing such limitations as rotation frequencies).

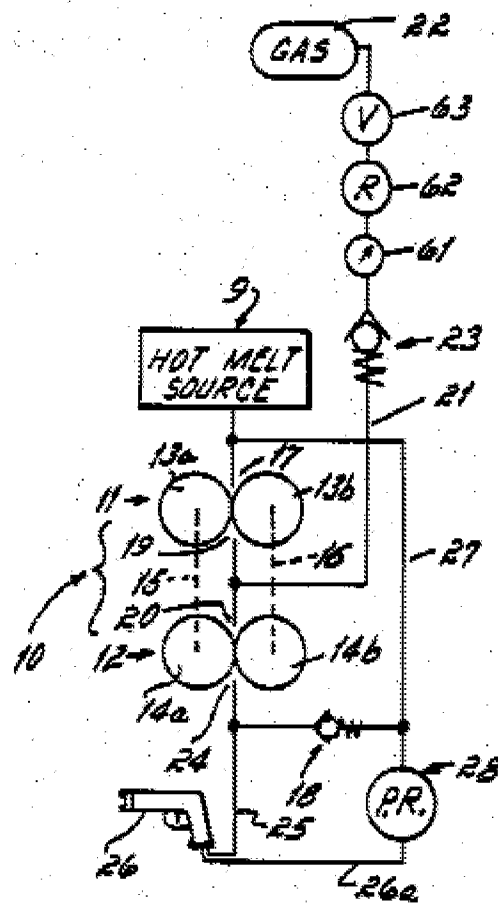


Figure 1 - Jameson (US Patent 4,535,919)

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akers et al. (US Patent 4,200,207) in view of Sunao (JP 2-218465).

12. In re claim 4, with Akers discloses a device for applying a foamed hot melt adhesive having a first compression process (91) including a first gear pump (93a,b) and a second compression process (92) including a second gear pump (94a,b), supplying a hot melt adhesive (89) with application of pressure in the first compression processing (91), mixing a gas (103) with the a hot melt adhesive (89) in the second compression process (92), and discharging the foamed hot melt adhesive (89) from a discharge opening (109), wherein the first gear pump (93a,b) of the first compression process (91) and the second gear pump (94a,b) of the second compression process (92) are driven by drive mechanisms (95,96) independently from each other and rotation frequencies of the first gear pump (93a,b) and the second gear pump (94a,b), respectively, are set independently and arbitrarily. An end of a return circuit (112) in the second compression process (92) is located at a downstream of the first gear pump

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(93a,b) so as to prevent air bubbles from returning to a tank. However, Akers fails to disclose a gas suction opening is provided between the first gear pump and the second gear pump in the second compression process and a mixer is provided between the gas suction opening and the second gear pump so as to enhance mixture and dispersion between the gas and a liquid. However, Suano with reference to figure 3 below, discloses a gas suction opening (11) is provided between the first gear pump (14) and the second gear pump (13) in the second compression process and a mixer (4) is provided between the gas suction opening (11) and the second gear pump (13) so as to enhance mixture and dispersion between the gas and a liquid. Therefore, it would have been obvious to one of ordinary skill in the art to implement Sunao's teaching into Klein's because this would improve the quality of the mixture.

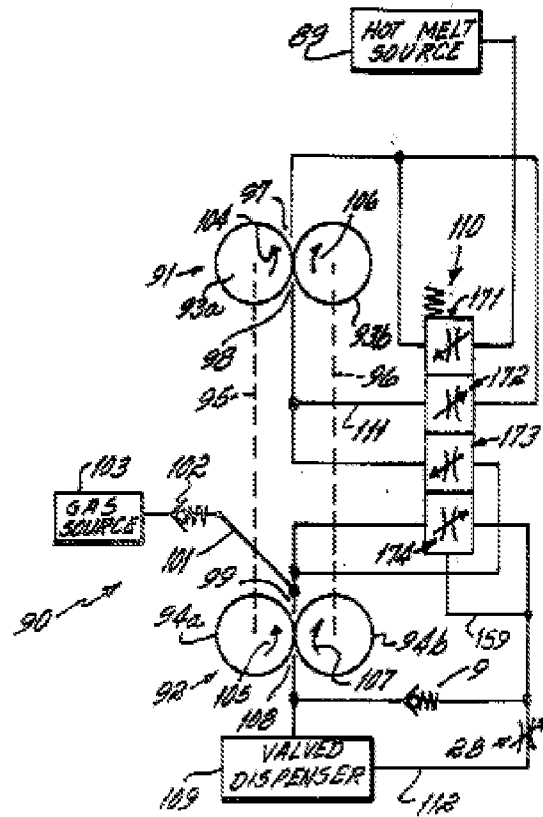


Figure 2 – Akers et al. (US Patent 4,200,207)

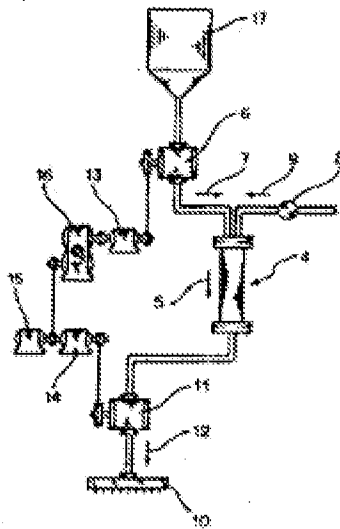


Figure 3 - Suno (JP 2-218465)



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13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jameson (US Patent 4,535,919) in view of Sunao (JP 2-218465).

14. In re claim 5, Jameson discloses with reference to figure 1 above, a device for applying a foamed hot melt adhesive having a first compression process (11) including a first gear pump (13a,b) and a second compression process (12) including a second gear pump (14a,b), supplying a hot melt adhesive (9) with application of pressure in the first compression processing (11), mixing a gas (22) with the a hot melt adhesive (9) in the second compression process (12), and discharging the foamed hot melt adhesive (9) from a discharge opening (26), wherein the first gear pump (13a,b) of the first compression process (11) and the second gear pump (14a,b) of the second compression process (12) are driven by drive mechanisms (15m) independently from each other and rotation frequencies of the first gear pump (13a,b) and the second gear pump (14a,b), respectively, are set independently and arbitrarily, and detecting a pressure (28) of a liquid being pressure fed in the second compression process (12), the rotation frequencies of the first gear pump (13a,b) and the second gear pump (14a,b), respectively, are sequentially controlled so as to automatically control an amount of the gas (22) to be mixed (the abstract discloses a system that can control all operating conditions, inherently describing such limitations as rotation frequencies) and a gun (26) installs a valve mechanism and a restriction valve therein so as to produce a single bubble (Column 2, lines 6 – 26) (although not specifically disclosed, the specification infers that one of ordinary skill in the art could release the valve just enough to produce one single bubble, if desired). However, Jameson et al. fails to

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disclose a gas suction opening is provided between the first gear pump and the second gear pump in the second compression process and a mixer is provided between the gas suction opening and the second gear pump so as to enhance mixture and dispersion between the gas and a liquid. However, Suano with reference to figure 3 above, discloses a gas suction opening (11) is provided between the first gear pump (14) and the second gear pump (13) in the second compression process and a mixer (4) is provided between the gas suction opening (11) and the second gear pump (13) so as to enhance mixture and dispersion between the gas and a liquid. Therefore, it would have been obvious to one of ordinary skill in the art to implement Sunao's teaching into Klein's because this would improve the quality of the mixture.

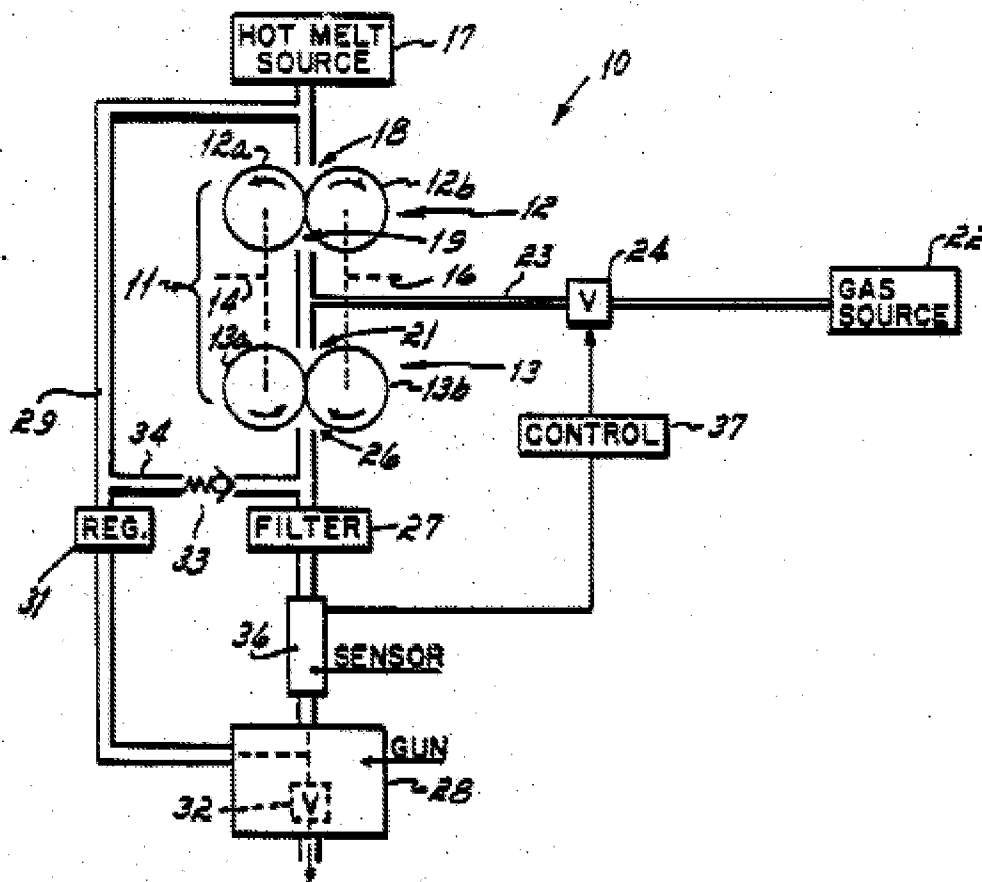


Figure 4 – Klein et al. (US Patent 4,779,762)

15. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al. (US Patent 4,535,919) in view of Okuda et al. (US Patent 6,538,040).

16. Claim 6, Klein discloses a method for selectively a foamed hot melt adhesive and a solid hot melt adhesive, using a device for applying a foam hot melt adhesive having a first compression process (12) including a first gear pump (12a,b) and a second compression process (13) including a second gear pump (13a,b), supplying a hot melt adhesive (17) with application of pressure in the first compression processing (12), mixing a gas (22) with the a hot melt adhesive (17) in the second compression process

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(13), and discharging the foamed hot melt adhesive (17) from a discharge opening (28), wherein the first gear pump (12a,b) of the first compression process (12) and the second gear pump (13a,b) of the second compression process (13) are driven by drive mechanisms (14,16) independently from each other and rotation frequencies of the first gear pump (12a,b) and the second gear pump (13a,b), respectively, are set independently and arbitrarily. However, Klein, fails to disclose wherein the ratio of discharge between the first gear pump and the second gear pump is automatically controlled to be set at 1/1 to apply the solid hot melt adhesive, the ratio of discharge between the first gear pump and the second gear pump is automatically controlled to be set a value greater than 1/1 to apply the foamed hot melt adhesive, and application of the foamed hot melt adhesive and that of the solid hot melt adhesive can be selectively performed by the device for applying the foamed hot melt adhesive. Although, Okuda discloses wherein the ratio of discharge between the first gear pump and the second gear pump is automatically controlled to be set at 1/1 (Column 9, lines 25 – 35) to apply the solid hot melt adhesive, the ratio of discharge between the first gear pump and the second gear pump is automatically controlled to be set a value greater than 1/1 (Column 9, lines 25 - 35) to apply the foamed hot melt adhesive, and application of the foamed hot melt adhesive and that of the solid hot melt adhesive can be selectively performed by the device for applying the foamed hot melt adhesive. Therefore, it would have been obvious to one of ordinary skill in the art to implement Okuda's teaching into Klein's because this will allow for the perfect ratio improving the end product.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL HAGEDORN whose telephone number is (571)270-5705. The examiner can normally be reached on Monday thru Thursday 7:30am to 6:00pm EST / except federal holidays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on (571)272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Hagedorn/  
Examiner, Art Unit 4159

/George Nguyen/

Supervisory Patent Examiner, Art Unit 4159